

METHOD AND WCDMA RECEIVER FOR HIGH-RATE AND LOW-RATE  
PHYSICAL CHANNEL RECEPTION

Abstract of the Disclosure

5

A spread-spectrum receiver has a high-rate path to receive multi-rate channels and a low-rate path to receive fixed-rate channels. In a wideband code division multiple access (WCDMA) embodiment, the high-rate path despreading 10 multi-rate physical channels having a variable spreading factor and the low-rate path despreading physical channels having a fixed spreading factor. The high-rate path may have high-rate rake fingers to despread multipath components of the multi-rate channels. Each multi-rate channel may have a different spreading code allowing for multicode reception. The high-rate path may also include a high-rate 15 rake with finger engines implemented in hardware to multiply symbols with a channel estimation, and a combiner to combine the multipath components. The low-rate path may include low-rate fingers to despread multipath components of the fixed-rate channels and a processor to generate a channel estimation and coherently combine symbols from the low-rate fingers with the channel estimation.

"Express Mail" mailing label number: EL833034180US

Date of Deposit: December 19, 2001

This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to the Commissioner for Patents, Box Patent Application, Washington, D.C. 20231.